



Puzzle Report

Competitive research and actionable product recommendations

TABLE OF CONTENTS

NEW INNOVATIONS 4

Referral Competition
Surprise & Delight

LIVE OPS 7

Varied Challenges

LEVEL DESIGNS 9

New Designs

MARKET WATCH 11

Top Grossing 1 - 10
Top Grossing 11 - 20
Top Grossing 21 - 30

DEEP DIVE 15

Economy Analysis

APPENDIX 20

JANUARY

2018

INTRODUCTION



“Courage is the main quality of leadership, in my opinion, no matter where it is exercised. Usually it implies some risk—especially in new undertakings.”
- Walt Disney, in ‘The Magic of Teamwork’

Dear Product Owner,

If gameplay is the heart of a game, then the economy is the blood. It drives D1, D7, and D30 metrics, and is fundamental to overall retention and monetization.

To help improve your economy, we are excited to provide you with a Puzzle Economy Analysis spreadsheet. It is now downloadable online for subscribers in the [Liquid and Grit Toolkit](#).

This spreadsheet allows you to easily adjust the economy numbers. Simply plug your preferred numbers in the orange cells and the model will adjust the output. As always, feel free to contact me with comments or questions at brett.nowak@liquidandgrit.com.

The Live Ops section of this report includes a solid example of opt-in personalization. This allows players to choose different options *based on personal preference*. This is a safe-bet type of personalization and great way to increase event adoption.

This month we have a deep list of Surprise & Delight recommendations. These are relatively inexpensive features to make players smile ... and increase retention. Due to their size, however, their impact is hard to observe in an A/B test. So these features are often best released to 100%. Gummy Drop’s option to *hide a popup* is a perfect example of this kind of feature that makes a small, but meaningful, impact on players.

Lead courageously.



Brett Nowak
Editor-in-Chief

NEW INNOVATIONS

REFERRAL COMPETITION

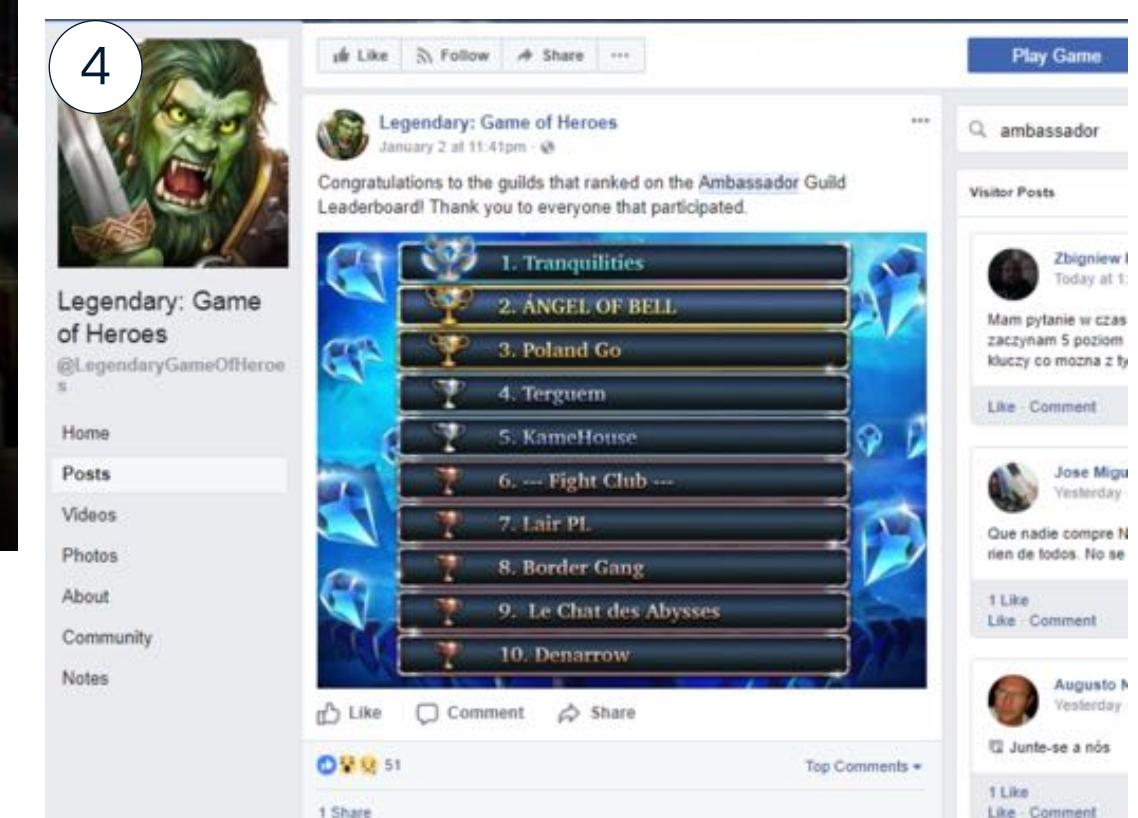
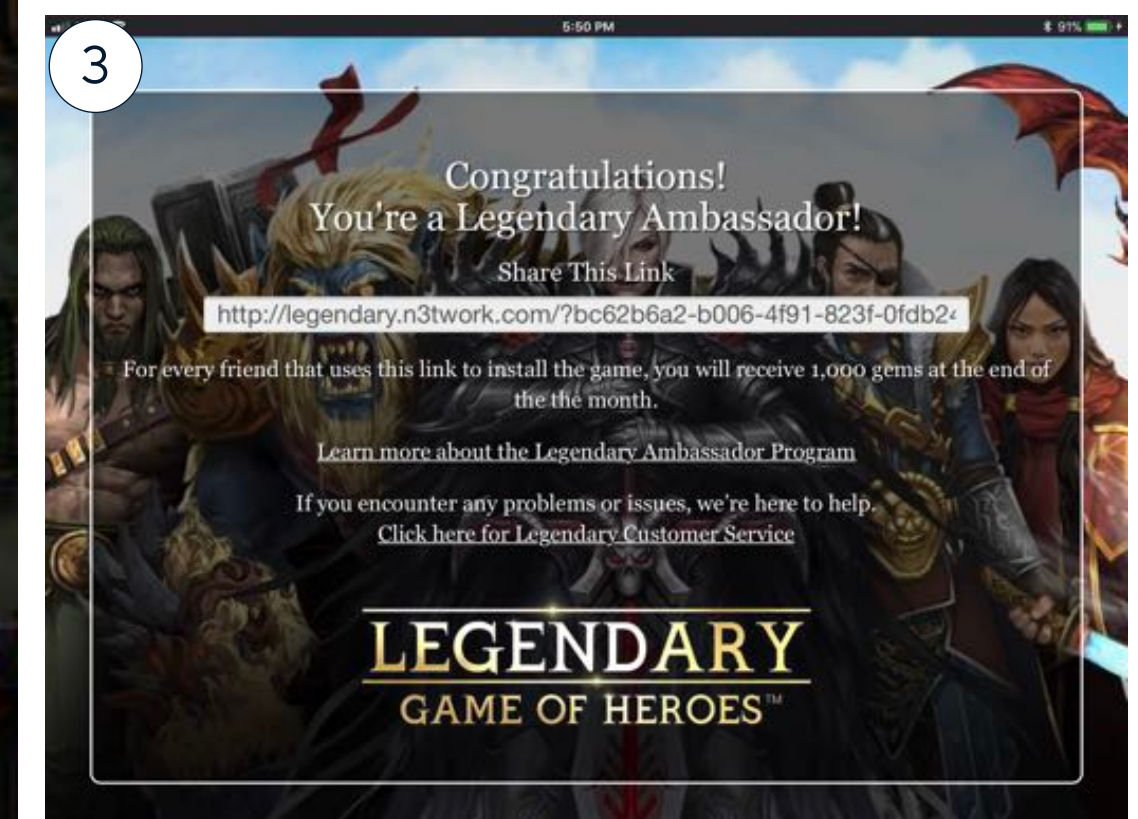
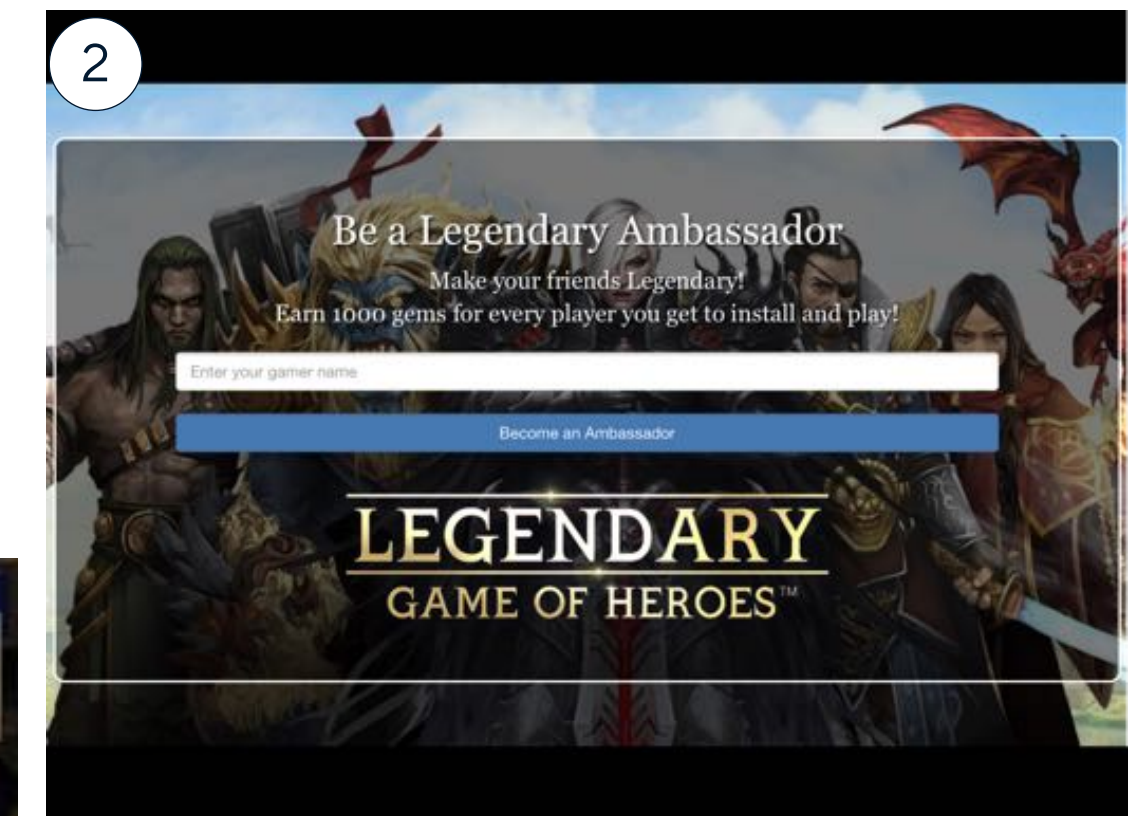
Legendary Game of Heroes added a competition to the guild-based referral program

- Players enter a gamer name on the developer's website (1 & 2)
 - A link is generated for players to share (3)
 - Players earn \$9.99 worth of gems for every new install
 - A 'guild vs. guild' competition now exists. Guilds win based on total number of new installs that reach rank 20
 - The leaderboard posts on the community page at the event conclusion. The top 10 guilds receive awards (4)
-
- Competition and leaderboard release: 12/1/17 (original program 8/14/16)
 - KPI: Installs
 - [Click here for more images >>](#)

Related features:

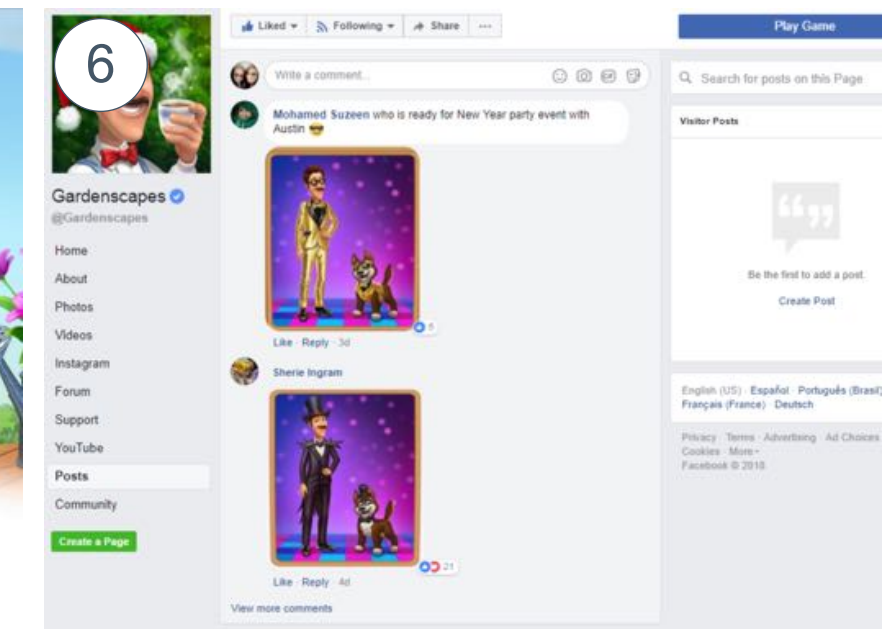
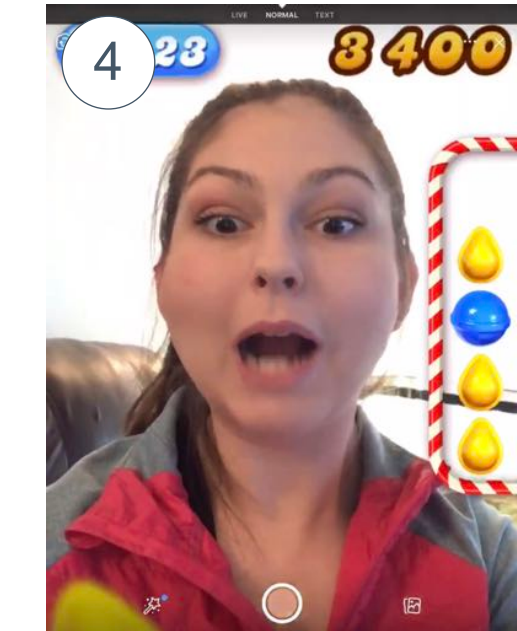
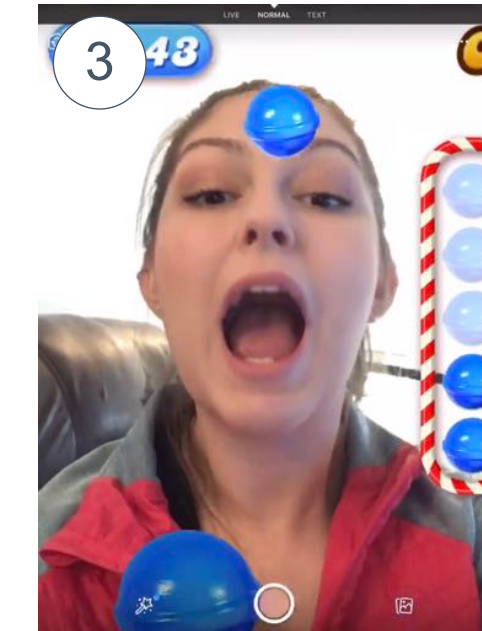
- [Refer a Friend](#) - Zynga Poker
- [Referral Program](#) - Wizard of Oz
- [Invite Frenzy](#) - WSOP

- The majority of organic installs often derive from a small percentage of players (similar to spender distribution). Therefore, a universal leaderboard will motivate whale-sharers to share more frequently
- Adding a guild or club system will persuade lighter sharers with peer pressure. The goal to help their guild provides additional motivation to invite friends
- To make winning more attainable for all players (not just whale-sharers), consider adding a league system. Release this after a universal leaderboard to test feature value before investing additional resources
- To reduce cheating, scale the awards received per install based on the level reached



SURPRISE & DELIGHT

- **Go 'old school' by allowing players to take the fun offline:** Farm Heroes Saga lets players cut up [Postcards](#) on the Community page to send game-themed holiday cards to friends and family. Disney Emoji Blitz took this concept one step further and released an entire printable [Board Game](#) to play with friends (1 & 2)
- **Please platforms to increase your chances of a featuring by incorporating platform-specific technology:** Candy Crush Saga released a [Facebook Camera mini game](#) where players use augmented reality to catch candies in their mouths (3 & 4). Also see [Snapchat Filters](#), another platform-specific feature
- **Build UGC tools outside the app to decrease development costs and boost Community engagement:** Gardenscapes released [Dress Austin](#), a web-based app that lets players dress the main character from Gardenscapes/Homescapes. The web-based product, found [here](#), makes it easy for people to post fun UGC content to Facebook (5 & 6)
- **Let players always hide certain re-triggered dialogues to decrease churn:** In Gummy Drop, there is an opt-in button to [hide all dialogues](#) from the Marathon Challenge. This is a good way to limit pop-up fatigue and maintain strong dialogue CTRs (7)
- **Increase customer intimacy with "Ask a Project Manager" Q&A sessions for players:** Gardenscapes community team released an interview of a Senior Project Manager. The answers were posted in the app's forum. Make sure to generate questions from the players (or consider a live Q&A feed) (8)



LIVE OPS

VARIED CHALLENGES

Legendary Game of Heroes and Angry Birds Match released events with varied challenges and awards to increase adoption

In Vault Assault - Legendary Game of Heroes, players receive rewards during the event for:

- Participating in the event (1)
- Rallying the group and MVP status (2)
- Finishing the final blow and finding the boss (3)

[More images and videos >>](#)

In Holiday Event - Angry Birds Match, players are given 3 different challenges based on their preference:

- Passing levels with a pick 'em reward (4)
- Passing 15 to 20 levels (5)
- Beating all 5 levels with a single life
- Completing all 3 challenges listed above (6)

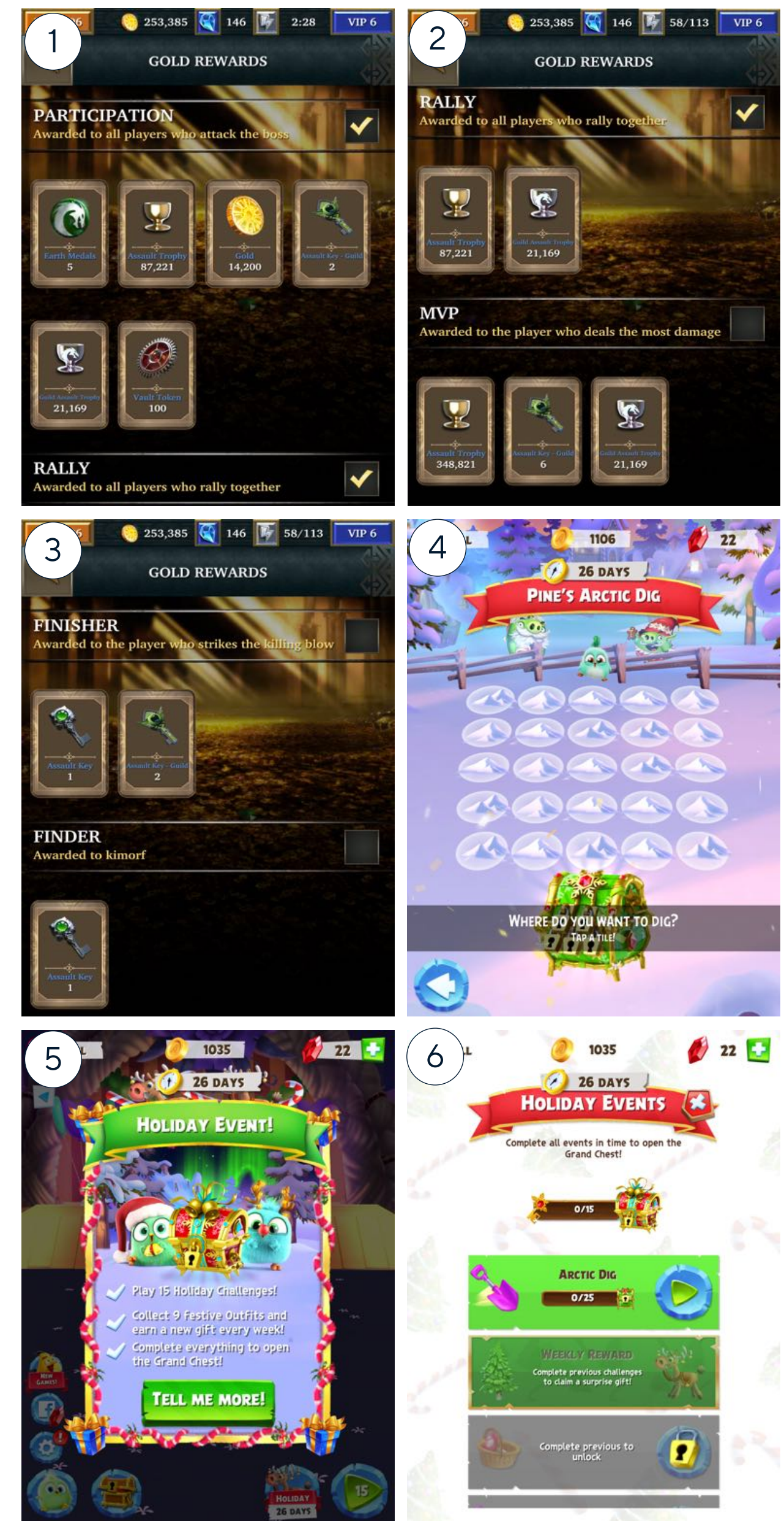
[More images and videos >>](#)

- Vault release: 12/10/17
- Holiday Event release: 12/7/17
- KPI: % of players engaged in event

Related features:

- [Prize Master](#) - Slotomania
- [Team Competition](#) - Candy Crush Soda
- [Choose Your Elf](#) - Bingo Blitz
- [Multiple Club Events](#) - Huuuge Casino

- Most players are less competitive and driven than you may think. It's important to keep players happy with awards for participation and effort ... instead of results
- Add more opt-in personalization to increase user adoption. Opt-in personalization allows the player to choose their experiences. In this case, players may target a specific award in Legendary Game of Heroes or a specific challenge in Angry Birds Match
- Consider including a community-based challenge as well. Community-based events are a growing trend in the Casino category and an effective way to involve lighter players (see [Community Challenges](#) in Gold Fish Casino and [Community Goal](#) in Bingo Showdown)



LEVEL DESIGNS

LEVEL DESIGNS

Expose Area - Grass in Gardenscapes

- Making matches next to Grass clears it from the play area (1)
- Triggering explosions near Grass clears it. Or, use a double boost to eliminate all of it (2)
- [More information >>](#)

Power Meters - Mine in Fishdom

- Equipping the Mine element with max power, then matching or exploding next to a Mine, removes all symbols and one layer of any obstacle (3 & 4)
- [More information >>](#)

Unlock with Participation - Gift Bomb in Wizard of Oz Magic Match

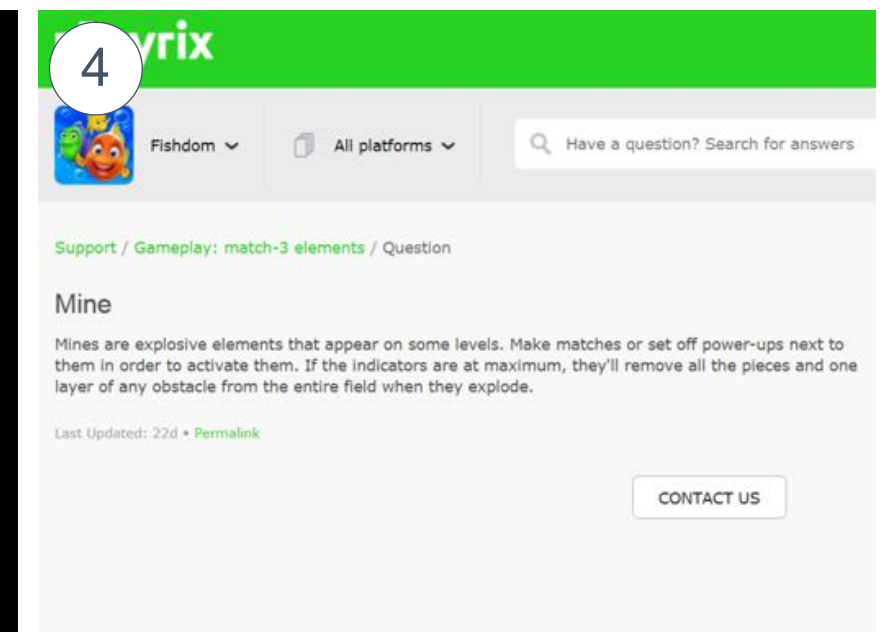
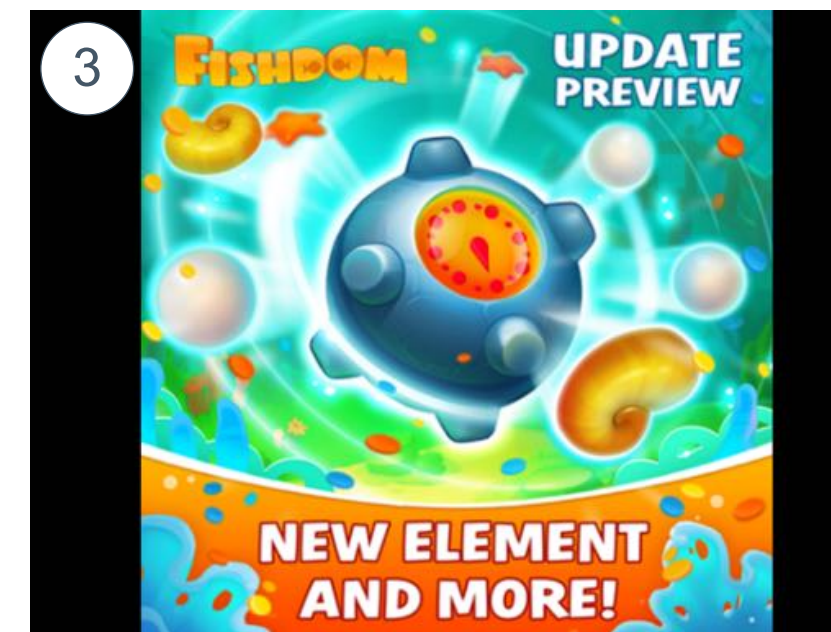
- Participating in a social event unlocks a secret holiday boost (5)
- Swapping a Gift Bomb with any piece explodes the surrounding area (6)
- [More information >>](#)

Path Progression - Paws in Gardenscapes

- Matching combinations, including Paw symbols, advances the character along a path (7)
- [More information >>](#)

Fill to Explode - Umbrella in Matchington Mansion

- Matching next to the Umbrella fills a color section and triggers a big explosion when each color section is filled (8)
- [More information >>](#)



MARKET WATCH

12/1/17 - 12/31/2017

TOP GROSSING 1–10

App	Notable Changes	More Information
Candy Crush Saga	<ul style="list-style-type: none">• Augmented reality mini game using Facebook camera• Event celebrating 3000 level	<ul style="list-style-type: none">• Facebook Camera Effect Game• Level 3000
Candy Crush Soda Saga	<ul style="list-style-type: none">• Gotcha mini game to win boosts	<ul style="list-style-type: none">• Booster Ball Machine
Homescapes	<ul style="list-style-type: none">• Holiday-themed app• Week of giveaways with various challenges and prizes• YouTube video tutorials	<ul style="list-style-type: none">• Happy Holidays• Giveaway Week• Level Tutorials
Gardenscapes	<ul style="list-style-type: none">• Piggy Bank feature• Q&A with a Project Manager• App to generate UGC with dress-the-character mechanic	<ul style="list-style-type: none">• Gold Reserve• Ask the PM• Dress Austin App
Toon Blast	<ul style="list-style-type: none">• Tournament and leaderboard for players that complete all levels	<ul style="list-style-type: none">• Champions League
Fishdom	<ul style="list-style-type: none">• Fill event meter to win two event items• Custom design decoration contest for birthday celebration	<ul style="list-style-type: none">• Christmas Tale• Fishdom's Birthday
Panda Pop	<ul style="list-style-type: none">• Holiday-themed reskin of events, bundles, and gifts	<ul style="list-style-type: none">• Grinch

TOP GROSSING 11 – 20

App	Notable Changes	More Information
Angry Birds 2	<ul style="list-style-type: none"> Points earned in tournaments upgrades profile frame. Frame is later converted into currency Collection item may be won in mini game 	<ul style="list-style-type: none"> Mighty Eagle's Bootcamp Viking in the North
Cookie Jam	<ul style="list-style-type: none"> Event challenge where players complete and then share to win sweepstakes 	<ul style="list-style-type: none"> Goodcheer Blimp Airship
Farm Heroes Saga	<ul style="list-style-type: none"> Cards players may print out to send to family and friends 	<ul style="list-style-type: none"> Printable Postcards
Gummy Drop	<ul style="list-style-type: none"> Map level challenge Holiday world with levels to earn prizes Return of unlimited lives on select coin packages 	<ul style="list-style-type: none"> Marathon Challenge Santa's Workshop Return of Infinite Lives
Legendary Game of Heroes	<ul style="list-style-type: none"> Daily retention gifts Team event to send member/friend on quest for keys. Keys used to battle bosses for rewards of: event currencies, trophy points, coins, and guild boss keys Update to referral program with guild competition 	<ul style="list-style-type: none"> Holiday Presents / Christmas Store Vault Assault Become an Ambassador
Family Guy AFMG	<ul style="list-style-type: none"> Holiday event and levels Community retention event 	<ul style="list-style-type: none"> Snowball Fight Advent Calendar

TOP GROSSING 21 – 30

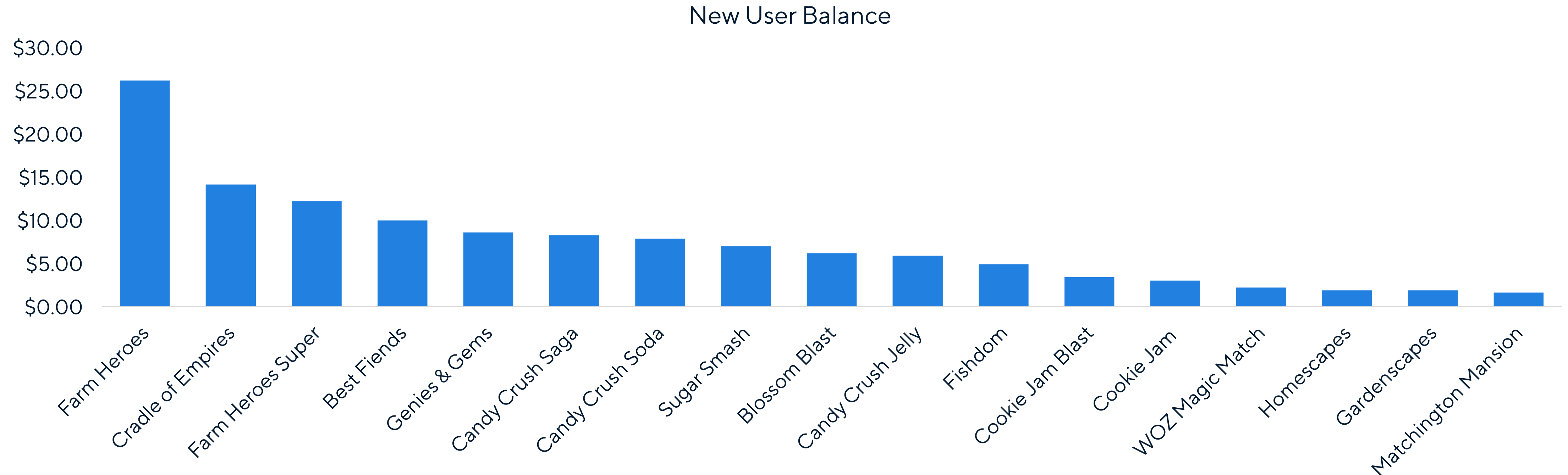
App	Notable Changes	More Information
Seekers Notes Hidden Mystery	<ul style="list-style-type: none"> Reskinned event with prize award tutorial Augmented reality released with event prize YouTube channel with tutorials 	<ul style="list-style-type: none"> Holiday for All Augmented Reality YouTube Channel
Wizard of Oz Magic Match	<ul style="list-style-type: none"> In-app social challenge event to unlock a special boost 	<ul style="list-style-type: none"> Send Santa Lives
Matchington Mansion	<ul style="list-style-type: none"> Holiday update summary Collection event to purchase holiday-themed decorations 	<ul style="list-style-type: none"> Holiday Update Christmas Event
Angry Birds Blast	<ul style="list-style-type: none"> Holiday event levels to complete for rewards 	<ul style="list-style-type: none"> Christmas Event
Fairway Solitaire	<ul style="list-style-type: none"> Reskinned holiday daily challenge mini game 	<ul style="list-style-type: none"> Winter Wonderland
Angry Birds Match	<ul style="list-style-type: none"> Holiday challenges to collect outfits and earn a weekly gift. Completing a level awards a pick 'em. Complete all for a prize chest Allows players to download app-themed wallpapers 	<ul style="list-style-type: none"> Holiday Events Wallpaper

DEEP DIVE: ECONOMY ANALYSIS

NEW USER BALANCE

The New User Balance is the amount of value a player receives upon installing the app

- The value includes all lives, currencies, and boosts a player either has upon install or receives after completing the tutorial

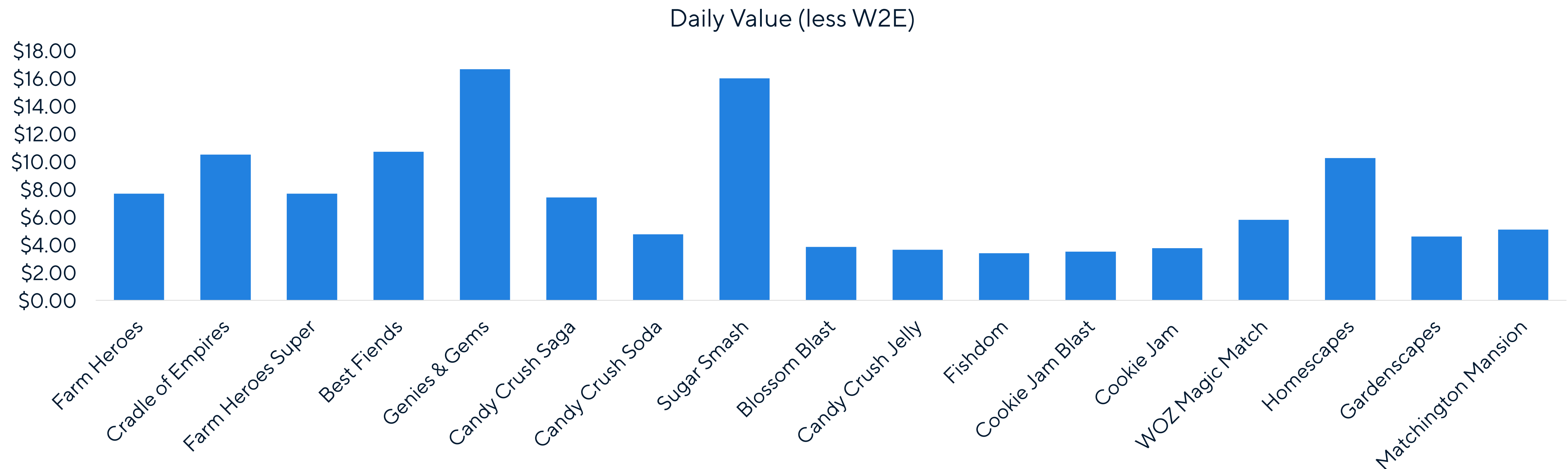


- The New User Balance should be heavily influenced by the overall strategy of the app (and company). More tactically speaking, the tuning should be tight if you want to monetize players early. This will give you earlier indications of the success (or failure) of the app; important information for companies with smaller pockets. The opposite is obviously true for deep pocket companies—and this should be used as a competitive advantage. Consider tuning the New User Balance loosely to drive early retention and focus on longer-term monetization
- For new apps, the New User Balance should be positioned against the core competitor (if adopting a positional strategy). Matchington Mansion is a good example: their economy was tuned slightly tighter than Gardenscapes and Homescapes. They made the app slightly tougher to beat (predicting that players wanted a harder experience)

POTENTIAL DAILY VALUE

The Potential Daily Value is the estimated amount of value that players receive free each day

- The Potential Daily Value includes the primary, secondary, and tertiary bonuses. It also includes lives, currencies, and boosts
- The payout of each feature is the average of 5 collections of that feature. The time per day players may collect free stuff is 8 hours (this is adjustable in the spreadsheet)
- The Potential Daily Value below does not include Watch-to-Earn (W2E). That information, however, is included in the excel spreadsheet



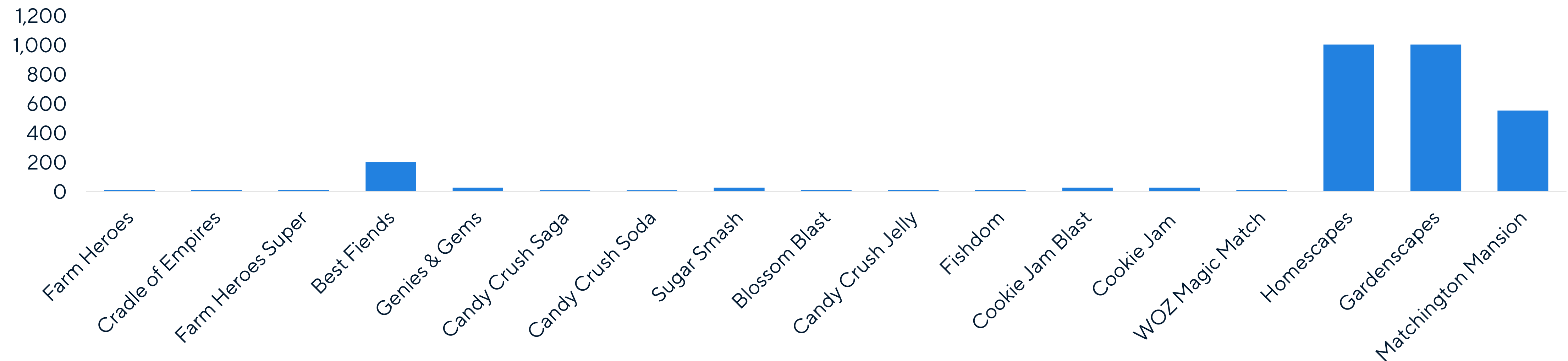
- The Potential Daily Value is largely based on the number of hours you believe a player can collect bonuses. In the downloadable excel spreadsheet, this period is easily adjustable. Consider building out multiple economy scenarios for light, medium, and heavy players (and do not underestimate how often heavy players play)
- A key driver of the Potential Daily Value is your game's core monetization feature. If monetization comes from the meta-features, then a larger Potential Daily Value should be considered to give players time to play the game (and vice versa)
- Another thing to consider is the difficulty of play. Some players actually want more difficulty. This is seen in Homescapes, where a small amount is given out daily

CURRENCY CONVERSION

The Currency Conversion converts each item to a dollar value. The conversion process starts with the primary currency non-sale \$1 package amount (or nearest package to \$1) as the baseline

- Other items are then converted from the primary currency using the buy page, dialogues, and other app-provided conversion information
- Boosts are included in this conversion. The value of boosts received is most often based on the cost of primary currency used to acquire that boost

Primary Currency Conversion



- Increase the complexity of the currency system to obfuscate the value of certain items. Without knowing the real value of an item, players are more likely to spend the item (and the money potentially used to acquire that item). This is a very similar concept to Credit Cards (see, the MIT Sloan study, [“A Further Investigation of the Credit-Card Effect on Willingness to Pay”](#))
- Multiple currencies also allow more involved players to try and trick the system. Let them trick it. This is a major reason why players will pick one app over another: they believe they are receiving some kind of deal
- Simpler systems, however, appeal to a broader audience and should be considered for more casual Puzzle apps. This is cheaper to develop with less to implement and balance

New! Download the full *Puzzle Economy Analysis* in the [Liquid and Grit Toolkit >>](#)

HOME ABOUT REPORTS DATABASE **TOOLKIT** CONTACT ACCOUNT



PRODUCT INTELLIGENCE ON NEW INNOVATIONS IN GAMING

Liquid and Grit's Economy Spreadsheet

This spreadsheet includes the economy analysis for many of the top Puzzle Apps

Category	Number	Notes
Hours players can play		How many hours in a day you assume a player may collect bonuses
Watch-to-earn collected / day		How many times a player may collect a MOE/day

THE VALUE NEW USERS RECEIVE		Best Friends	Blossom Blast	Candy Crush Jelly	Candy Crush Saga	Candy Crush Soda	Cookie Jam	Cookie Jam Blast
Starting Balance		2 lives + 4.99 bundle	2 lives + 50 gold	2 lives + 50 gold	2 lives + 50 gold	2 lives + 50 gold	2 lives + 50 coins	2 lives + 50 coins
Energy/Lives	5	5	5	5	5	5	5	5
Value of a life	\$1.00	\$0.24	\$0.18	\$0.32	\$0.24	\$0.20	\$0.20	\$0.20
Total value of lives	\$5.00	\$1.20	\$0.90	\$1.60	\$1.20	\$1.00	\$1.00	\$1.00
Primary currency		90	90	90	90	90	90	90
Value of currency		\$0.13	\$0.12	\$0.13	\$0.13	\$0.24	\$0.24	\$0.24
Total value of Primary currency		\$4.98	\$8.00	\$8.00	\$6.67	\$2.00	\$2.00	\$2.00
Secondary currency		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Value of currency		N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total value of Secondary currency		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total value of starting balance		\$9.98	\$6.20	\$5.90	\$8.27	\$7.87	\$3.00	\$3.40

THE VALUE NEW PLAYERS RECEIVE DAILY		Best Friends	Blossom Blast	Candy Crush Jelly	Candy Crush Saga	Candy Crush Soda	Cookie Jam	Cookie Jam Blast
Primary bonuses potential / day		1	48	1	1	1	1.3	1.3
Collected / day (based on input above)		1.0	16.0	1.0	1.0	1.0	1.0	1.0
Value per collection		\$0.08	\$0.24	\$0.76	\$1.18	\$0.92	\$0.99	\$0.31
Total value of Primary bonus / period		\$0.08	\$3.84	\$0.76	\$1.18	\$0.92	\$0.99	\$0.31
Secondary bonus potential / day		12	N/A	48	1	48	48	48
Collected / day (based on input above)		4.0	N/A	16.0	1.0	16.0	16.0	16.0
Value per collection		\$1.00	N/A	\$0.18	\$1.11	\$0.24	\$0.20	\$0.20
Total value of Secondary bonus / period		\$4.00	\$0.00	\$2.88	\$1.11	\$3.84	\$3.20	\$3.20
Tertiary bonus potential / day		288	N/A	N/A	48	N/A	N/A	N/A
Collected / day (based on input above)		96.0	N/A	N/A	16.0	N/A	N/A	N/A
Value per collection		0	N/A	N/A	\$0.32	N/A	N/A	N/A
Total value of Secondary bonus / period		\$0.00	\$0.00	\$0.00	\$5.12	\$0.00	\$0.00	\$0.00

APPENDIX

DATA COLLECTION PROCESS

Recommendations, information, and data comes from market research, app intelligence tools, and deep analyses of the apps

Market research

- Each app is reviewed daily for updates, regardless of whether the app has been updated through the App Store
- Transaction information comes from the iOS App Store's In-App Purchases tab. These transactions are ranked based on the number of transactions
- Trending revenue, downloads, and package-rank data come from Sensor Tower Store Intelligence

Game information

- App information comes from a deep-dive analysis of each app
- In the Economy Analysis and economy-related slides, the currency value is determined by converting currencies into money using \$5 worth of non-sale purchasable currencies in each app
- For example, if an item costs 1,000 of the primary currency and players can purchase 500 for \$5, the value of the item is \$10. For apps without a \$5 package, the next closest package is used

“We keep moving forward, opening new doors, and doing new things, because we're curious and curiosity keeps leading us down new paths.”

– Walt Disney

LiquidandGrit.com



Brett.Nowak@LiquidandGrit.com

